



LAND USE CONTROL IMPLEMENTATION PLAN

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION KENNEDY SPACE CENTER BREVARD COUNTY, FLORIDA



FACILITY: Hypergol Maintenance Facility
Hazardous Waste South Staging Areas
Solid Waste Management Unit No. 70

CONTAMINANTS: VOCs, Aluminum, and Iron in Groundwater

CONTROL: Prohibit Groundwater Use

PURPOSE OF LAND USE CONTROL IMPLEMENTATION PLAN

This Land Use Control Implementation Plan (LUCIP) has been prepared to inform current and potential future users of the Hypergol Maintenance Facility Hazardous Waste South Staging Areas (HMF) Facility of institutional controls that have been implemented at the site¹. Although there are no current unacceptable risks to human health or the environment associated with the HMF Facility, institutional land use controls (LUCs) are necessary to prohibit the use of groundwater from the site. Controls will include periodic inspection, condition certification and agency notification.

WHY LAND USE CONTROLS ARE NEEDED

Human health and ecological risk assessments were completed as part of a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI).

Chemicals of concern (COCs) identified for human health risk during the RFI that exceeded Florida Department of Environmental Protection (FDEP) and Environmental Protection Agency (EPA) cleanup target levels were volatile organic compounds (VOCs), aluminum, and iron in groundwater. No COCs were identified for ecological receptors.

SITE DESCRIPTION

The HMF is a NASA-operated facility that was constructed between 1964 and 1985 to support the Apollo and Shuttle Space Programs at KSC; however, most of the buildings were constructed in 1964. The HMF facility includes the East Hypergol Module Storage Building, West Hypergol Module Storage Building, Hazardous Waste Staging Shelter, Hazardous Waste Staging Area (formerly the Liquid Oxygen Fuel Pad), former Liquid Hydrogen Fuel Pad, two leaching ponds, and two equipment shelters; which comprise an area of approximately 8 acres.

1. This LUCIP summarizes institutional controls regarding the NASA KSC Hypergol Maintenance Facility. For detailed information on the site, consult the HMF Facility administrative file, which is available for review by contacting the KSC Environmental Program Office at telephone number (321) 867-8411.

Past operations at the HMF include cryogenic testing for the Apollo Space Program and “hot-testing” of the Solid Rocket Booster Aft Skirt. In addition, from 1981 to 1998, the Hazardous Waste Staging Area operated as a permitted RCRA Temporary Storage and Disposal (TSD) facility. The TSD was closed in 1998. The facility is currently inactive and used for the storage of miscellaneous equipment.

SITE LOCATION

The HMF Facility is located in the northeast of the intersection of F Avenue SE and 10th Street SE in the KSC Industrial Area (Figure 1). The HMF is located within Section 4 of Township 23S, Range 37E, as shown on the Orsino Quadrangle Map. The groundwater use control areas covered by the LUCIP is shown on Figure 2. Coordinates of the corners of the LUC are provided in Figure 2 in the State Plane Coordinate System NAD 1983 meters, Florida East.

SITE CONTAMINATION AND CONTROL

Groundwater at the site contains VOCs, aluminum, and iron above FDEP’s groundwater cleanup target levels (GCTLs). The past, current, and projected future land use of the HMF is industrial in nature. LUCs are therefore required to prohibit the use of groundwater at the site. Indoor air

quality shall be evaluated prior to any construction within the groundwater use control area.

DECISION DOCUMENT

A Statement of Basis (SB) establishes institutional controls as a component of the remedy for the site. The SB for the site, KSC document number KSC-TA-6840, is available for review by contacting the KSC Environmental Program Office at telephone number (321) 867-8411.

IMPLEMENTATION

Institutional controls will be implemented by the KSC Environmental Program Office in accordance with their RCRA permit and a Land Use Control Assurance Plan included in a Memorandum of Agreement (MOA)² between NASA, FDEP, and EPA, effective February 23, 2001. Upon approval of this LUCIP, it will be incorporated into the permit by reference. Property transfer (if conducted in the future) will be conducted in accordance with Section X of the MOA.

KSC’s Environmental Program Office will provide KSC’s Master Planning Office with survey coordinates of the LUCs. Restrictions will specify limitations on development and reuse for the area for as long as LUCs are necessary to protect human health and the environment.

2. By separate MOA effective February 23, 2001, with the EPA and FDEP, KSC, on behalf of NASA, agreed to implement Center-wide, certain periodic site inspections, condition certification, and agency notification procedures designed to ensure the maintenance by Center personnel of any site-specific LUCs deemed necessary for future protection of human health and the environment. A fundamental premise underlying execution of that agreement was that through the Center’s substantial good faith compliance with the procedures called for herein, reasonable assurances would be provided to EPA and FDEP as to the permanency of those remedies which included the use of specific LUCs.

Although the terms and conditions of the MOA are not specifically incorporated or made enforceable herein by reference, it is understood and agreed by NASA KSC, EPA and FDEP that the contemplated permanence of the remedy reflected herein shall be dependent upon the Center’s substantial good faith compliance with the specific LUC maintenance commitments reflected herein. Should such compliance not occur or should the MOA be terminated, it is understood that the protectiveness of the remedy concurred in may be reconsidered and that additional measures may need to be taken to adequately ensure necessary future protection of human health and the environment.

MONITORING

Quarterly inspections to monitor that the institutional controls specified herein are in place and operating will be conducted by KSC's Environmental Program Office. The inspection will verify that no groundwater use is occurring.

REPORTING

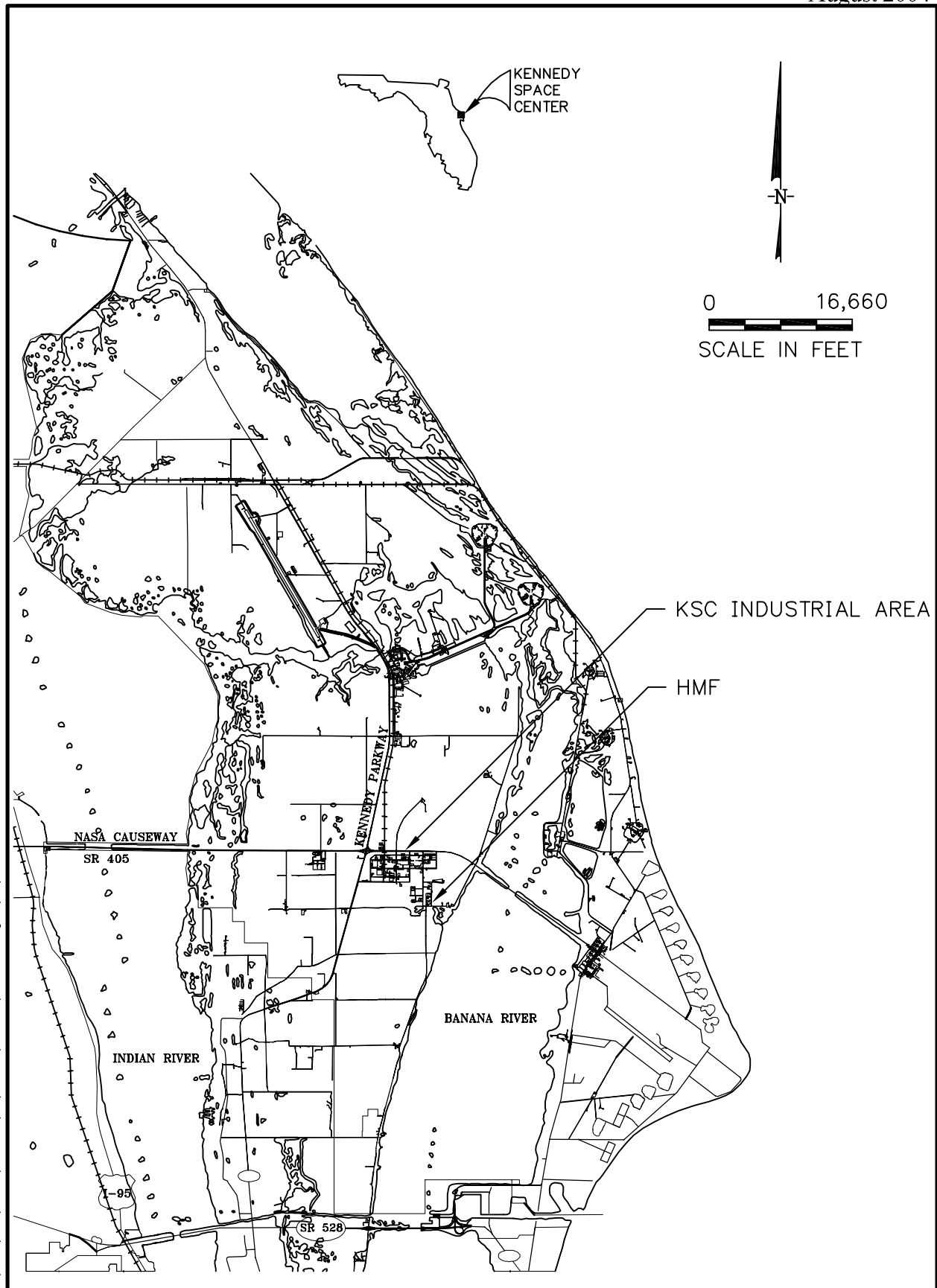
KSC's Environmental Program Office will submit annual reports to EPA and FDEP certifying retention of the implemented LUCs.

ENFORCEMENT

KSC's Environmental Program Office will be responsible for stopping any activities at KSC that are not compliant with this LUCIP.

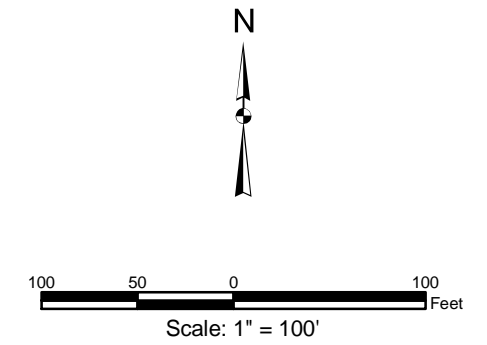
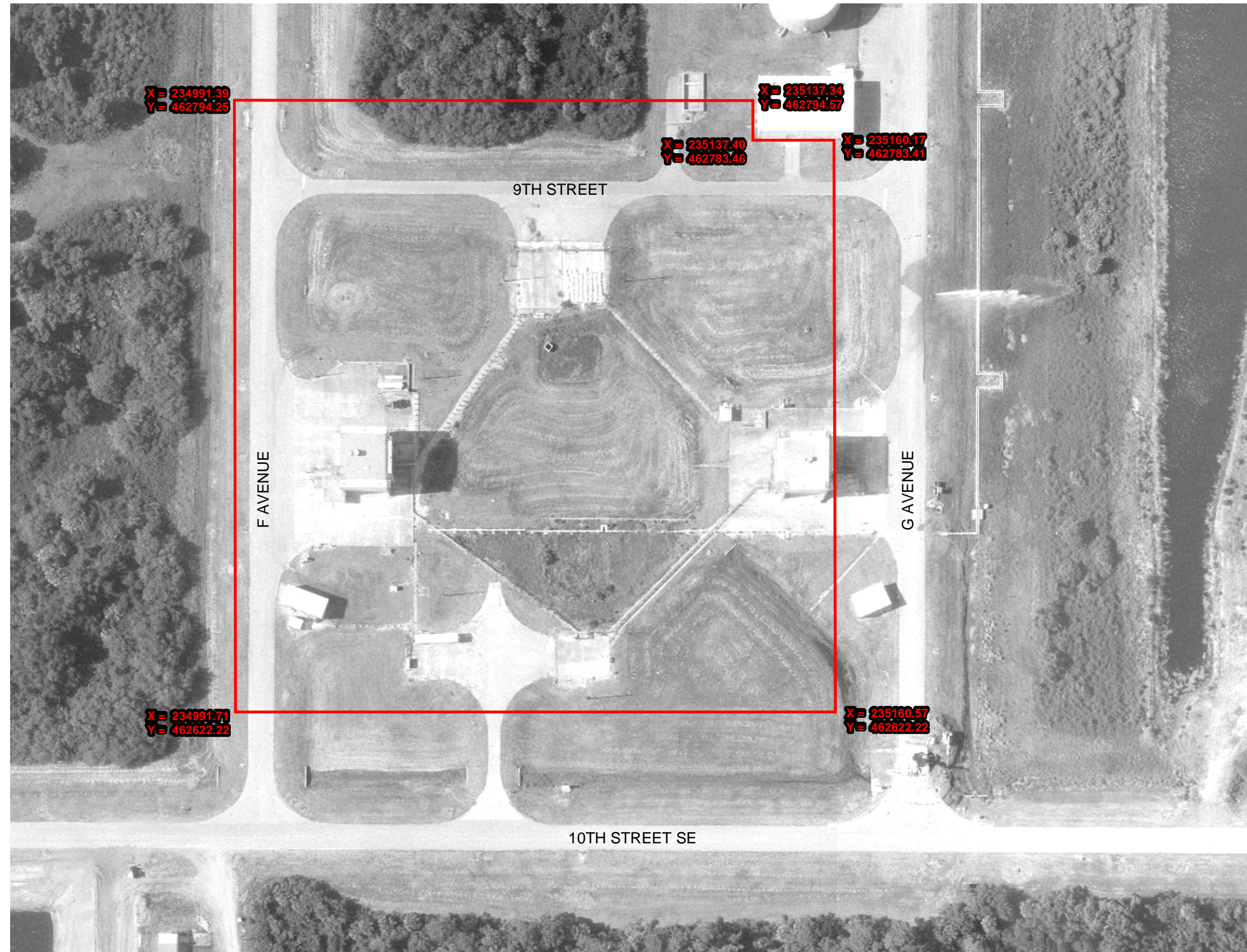
MAINTENANCE

The LUCIP shall remain in place until a land use change is implemented and the concerns managed by the LUCIP are mitigated; or there is a discovery, based upon analytical evidence, that scenarios managed by the LUCIP are no longer a concern. Any change in LUC management must be approved by the EPA and FDEP and implemented by modification of NASA's operating permit.



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FIGURE 1
HMF Facility (SWMU 70)
Location Map



LEGEND

Area Covered by Statement of Basis and Groundwater Use Control

Note:

BLS = below land surface

*Survey Coordinates are in US State Plane
Coordinate System NAD 1983 Meters, Florida East*

Figure 2
Site Map of HMF (SWMU 70) Area